

ANNEX D (normative)

Java application programmer's interface

```

/* File RTI.java */

package hla.rti;

/**
 * A home for implementation constants.
 */
public final class RTI {
    public static final int MAX_FEDERATES = 32;

    public static final CaseInsensitiveName DEFAULT_SPACE_NAME = new CaseInsensitiveName("HLA-
defaultSpace");
    public static final int DEFAULT_SPACE_HANDLE = 0;
    public static final CaseInsensitiveName DEFAULT_DIMENSION_NAME = new CaseInsensitive-
Name("HLAdefaultDimension");
    public static final CaseInsensitiveName ROOT_OBJECT_CLASS_NAME = new CaseInsensitive-
Name("ObjectRoot");
    public static final int ROOT_OBJECT_CLASS_HANDLE = 0;
    public static final CaseInsensitiveName PRIVILEGE_TO_DELETE_NAME = new CaseInsensitive-
Name("privilegeToDeleteObject");
    public static final int PRIVILEGE_TO_DELETE_HANDLE = 0;
    public static final CaseInsensitiveName ROOT_INTERACTION_CLASS_NAME = new CaseInsensitive-
Name("InteractionRoot");
    public static final int ROOT_INTERACTION_CLASS_HANDLE = 0;
    /**
     * Needed for receiving best effort messages
     */
    public static final int MAX_USER_TAG_LENGTH = 30;
    public static final String RTI_VERSION = "Java 1.3";
}

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/* File RTIambassador.java */

package hla.rti;
import java.util.*;

public interface RTIambassador {

    // 9.6
    public void associateRegionForUpdates (
        int             theRegion,
        int             theObject,
        AttributeHandleSet theAttributes,
        int federateHandle)
    throws
        ObjectNotKnown,
        AttributeNotDefined,
        InvalidRegionContext,
        RegionNotKnown,
        FederateNotExecutionMember,
        SaveInProgress,
        RestoreInProgress,
        RTIinternalError,
        UnimplementedService,
        java.rmi.RemoteException;
    // 7.7
    public void attributeOwnershipAcquisition (
        int             theObject,
        AttributeHandleSet desiredAttributes,
        byte[]          userSuppliedTag,
        int federateHandle)
    throws
        ObjectNotKnown,
        ObjectClassNotPublished,
        AttributeNotDefined,
        AttributeNotPublished,
        FederateOwnsAttributes,
        FederateNotExecutionMember,
        SaveInProgress,
        RestoreInProgress,
        RTIinternalError,
        UnimplementedService,
        java.rmi.RemoteException;
    // 7.8
    public void attributeOwnershipAcquisitionIfAvailable (
        int             theObject,
        AttributeHandleSet desiredAttributes,
        int federateHandle)
    throws
        ObjectNotKnown,
        ObjectClassNotPublished,
        AttributeNotDefined,
        AttributeNotPublished,
        FederateOwnsAttributes,
        AttributeAlreadyBeingAcquired,
        FederateNotExecutionMember,
        SaveInProgress,
        RestoreInProgress,
        RTIinternalError,
        UnimplementedService,
        java.rmi.RemoteException;
    // 7.11
    public AttributeHandleSet
attributeOwnershipReleaseResponse (
        int             theObject,
        AttributeHandleSet theAttributes,
        int federateHandle)
    throws
        ObjectNotKnown,
        AttributeNotDefined,
        AttributeNotOwned,
        FederateWasNotAskedToReleaseAttribute,
        FederateNotExecutionMember,

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SaveInProgress,
RestoreInProgress,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 7.13
public void cancelAttributeOwnershipAcquisition (
    int          theObject,
    AttributeHandleSet theAttributes,
    int federateHandle)
throws
ObjectNotKnown,
AttributeNotDefined,
AttributeAlreadyOwned,
AttributeAcquisitionWasNotRequested,
FederateNotExecutionMember,
SaveInProgress,
RestoreInProgress,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 7.12
public void cancelNegotiatedAttributeOwnershipDivestiture (
    int          theObject,
    AttributeHandleSet theAttributes,
    int federateHandle)
throws
ObjectNotKnown,
AttributeNotDefined,
AttributeNotOwned,
AttributeDivestitureWasNotRequested,
FederateNotExecutionMember,
SaveInProgress,
RestoreInProgress,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 8.23
public void changeAttributeOrderType (
    int          theObject,
    AttributeHandleSet theAttributes,
    int          theType,
    int federateHandle)
throws
ObjectNotKnown,
AttributeNotDefined,
AttributeNotOwned,
InvalidOrderingHandle,
FederateNotExecutionMember,
SaveInProgress,
RestoreInProgress,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 6.11
public void changeAttributeTransportType (
    int          theObject,
    AttributeHandleSet theAttributes,
    int          theType,
    int federateHandle)
throws
ObjectNotKnown,
AttributeNotDefined,
AttributeNotOwned,
InvalidTransportationHandle,
FederateNotExecutionMember,
SaveInProgress,
RestoreInProgress,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 8.24
public void changeInteractionOrderType (
    int theClass,

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        int          theType,
        int federateHandle)
throws
    InteractionClassNotDefined,
    InteractionClassNotPublished,
    InvalidOrderingHandle,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 6.12
public void changeInteractionTransportType (
    int theClass,
    int theType,
    int federateHandle)
throws
    InteractionClassNotDefined,
    InteractionClassNotPublished,
    InvalidTransportationHandle,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
public void createFederationExecution (
    String executionName,
    java.net.URL fed)
throws
    FederationExecutionAlreadyExists,
    SaveInProgress,
    RestoreInProgress,
    CouldNotOpenFED,
    ErrorReadingFED,
    RTIinternalError,
    java.rmi.RemoteException;
public void createFederationExecution (
    String executionName,
    java.net.URL fed,
    FederationTimeFactory timeFactory)
throws
    FederationExecutionAlreadyExists,
    SaveInProgress,
    RestoreInProgress,
    CouldNotOpenFED,
    ErrorReadingFED,
    RTIinternalError,
    java.rmi.RemoteException;
///////////////////////////////
// Data Distribution Management //
///////////////////////////////

// 9.2
public int
createRegion (
    int theSpace,
    long      numberOfExtents,
    int federateHandle)
throws
    SpaceNotDefined,
    InvalidExtents,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
public void deleteObjectInstance (
    int      ObjectHandle,
    byte[]   userSuppliedTag,
    int federateHandle)
throws

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ObjectNotKnown,
DeletePrivilegeNotHeld,
FederateNotExecutionMember,
SaveInProgress,
RestoreInProgress,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 6.8
public int
deleteObjectInstance (
    int      ObjectHandle,
    FederationTime      theTime,
    byte[]            userSuppliedTag,
    int federateHandle)
throws
ObjectNotKnown,
DeletePrivilegeNotHeld,
InvalidFederationTime,
FederateNotExecutionMember,
SaveInProgress,
RestoreInProgress,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 9.4
public void deleteRegion (
    int theRegion,
    int federateHandle)
throws
RegionNotKnown,
FederateNotExecutionMember,
SaveInProgress,
RestoreInProgress,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
public void destroyFederationExecution (String executionName)
throws
FederatesCurrentlyJoined,
FederationExecutionDoesNotExist,
SaveInProgress,
RestoreInProgress,
RTIinternalError,
java.rmi.RemoteException;
// 8.15
public void disableAsynchronousDelivery(
    int federateHandle)
throws
AsynchronousDeliveryAlreadyDisabled,
FederateNotExecutionMember,
SaveInProgress,
RestoreInProgress,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 10.26
public void disableAttributeRelevanceAdvisorySwitch(
    int federateHandle)
throws
FederateNotExecutionMember,
SaveInProgress,
RestoreInProgress,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 10.28
public void disableAttributeScopeAdvisorySwitch(
    int federateHandle)
throws
FederateNotExecutionMember,
SaveInProgress,
RestoreInProgress,
RTIinternalError,

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        UnimplementedService,
        java.rmi.RemoteException;
// 10.24
public void disableClassRelevanceAdvisorySwitch(
    int federateHandle)
throws
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 10.30
public void disableInteractionRelevanceAdvisorySwitch(
    int federateHandle)
throws
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 8.7
public void disableTimeConstrained (
    int federateHandle)
throws
    TimeConstrainedWasNotEnabled,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 8.4
public void disableTimeRegulation (
    int federateHandle)
throws
    TimeRegulationWasNotEnabled,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 8.14
public void enableAsynchronousDelivery(
    int federateHandle)
throws
    AsynchronousDeliveryAlreadyEnabled,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 10.25
public void enableAttributeRelevanceAdvisorySwitch(
    int federateHandle)
throws
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 10.27
public void enableAttributeScopeAdvisorySwitch(
    int federateHandle)
throws
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,

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```

java.rmi.RemoteException;
// 10.23
public void enableClassRelevanceAdvisorySwitch(
    int federateHandle)
throws
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 10.29
public void enableInteractionRelevanceAdvisorySwitch(
    int federateHandle)
throws
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 8.5
public void enableTimeConstrained (
    int federateHandle)
throws
    TimeConstrainedAlreadyEnabled,
    EnableTimeConstrainedPending,
    TimeAdvanceAlreadyInProgress,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
///////////////////////////////
// Time Management Services //
///////////////////////////////

// 8.2
public void enableTimeRegulation (
    FederationTime theFederateTime,
    FederationTime theLookahead,
    int federateHandle)
throws
    TimeRegulationAlreadyEnabled,
    EnableTimeRegulationPending,
    TimeAdvanceAlreadyInProgress,
    InvalidFederationTime,
    InvalidLookahead,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 8.12
public void flushQueueRequest (
    FederationTime theTime,
    int federateHandle)
throws
    InvalidFederationTime,
    FederationTimeAlreadyPassed,
    TimeAdvanceAlreadyInProgress,
    EnableTimeRegulationPending,
    EnableTimeConstrainedPending,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 10.4
public int
getAttributeHandle (

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        CaseInsensitiveName           theName,
        int whichClass,
        int federateHandle)
throws
ObjectClassNotDefined,
NameNotFound,
FederateNotExecutionMember,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 10.5
public CaseInsensitiveName
getAttributeName (
    int theHandle,
    int whichClass,
    int federateHandle)
throws
ObjectClassNotDefined,
AttributeNotDefined,
FederateNotExecutionMember,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 10.16
public int
getAttributeRoutingSpaceHandle (
    int theHandle,
    int whichClass,
    int federateHandle)
throws
ObjectClassNotDefined,
AttributeNotDefined,
FederateNotExecutionMember,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 10.14
public int
getDimensionHandle (
    CaseInsensitiveName           theName,
    int whichSpace,
    int federateHandle)
throws
SpaceNotDefined,
NameNotFound,
FederateNotExecutionMember,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 10.15
public CaseInsensitiveName
getDimensionName (
    int theHandle,
    int whichClass,
    int federateHandle)
throws
SpaceNotDefined,
DimensionNotDefined,
FederateNotExecutionMember,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
///////////////////
// FED inspector method
///////////////////
public hla.rti.fedinspector getFEDinspector()
throws
java.rmi.RemoteException;
// 10.6
public int
getInteractionClassHandle (
    CaseInsensitiveName theName,
    int federateHandle)
throws

```

```

NameNotFound,
FederateNotExecutionMember,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 10.7
public CaseInsensitiveName
getInteractionClassName (
    int theHandle,
    int federateHandle)
throws
    InteractionClassNotDefined,
    FederateNotExecutionMember,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 10.18
public int
getInteractionRoutingSpaceHandle (
    int theHandle,
    int federateHandle)
throws
    InteractionClassNotDefined,
    FederateNotExecutionMember,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 10.17
public int
getObjectClass (
    int theObject,
    int federateHandle)
throws
    ObjectNotKnown,
    FederateNotExecutionMember,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
///////////////////////////////
// RTI Support Services //
////////////////////////////

// 10.2
public int
getObjectClassHandle (
    CaseInsensitiveName theName,
    int federateHandle)
throws
    NameNotFound,
    FederateNotExecutionMember,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 10.3
public CaseInsensitiveName
getObjectClassName (
    int theHandle,
    int federateHandle)
throws
    ObjectClassNotDefined,
    FederateNotExecutionMember,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 10.10
public int
getObjectInstanceHandle (
    CaseInsensitiveName theName,
    int federateHandle)
throws
    ObjectNotKnown,
    FederateNotExecutionMember,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;

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    java.rmi.RemoteException;
// 10.11
public CaseInsensitiveName
getObjectName (
    int theHandle,
    int federateHandle)
throws
    ObjectNotFound,
    FederateNotExecutionMember,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 10.21
public int
getOrderingHandle (
    CaseInsensitiveName theName,
    int federateHandle)
throws
    NameNotFound,
    FederateNotExecutionMember,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 10.22
public CaseInsensitiveName
getOrderingName (
    int theHandle,
    int federateHandle)
throws
    InvalidOrderingHandle,
    FederateNotExecutionMember,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 10.8
public int
getParameterHandle (
    CaseInsensitiveName theName,
    int whichClass,
    int federateHandle)
throws
    InteractionClassNotDefined,
    NameNotFound,
    FederateNotExecutionMember,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 10.9
public CaseInsensitiveName
getParameterName (
    int theHandle,
    int whichClass,
    int federateHandle)
throws
    InteractionClassNotDefined,
    InteractionParameterNotDefined,
    FederateNotExecutionMember,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 10.12
public int
getRoutingSpaceHandle (
    CaseInsensitiveName theName,
    int federateHandle)
throws
    NameNotFound,
    FederateNotExecutionMember,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 10.13
public CaseInsensitiveName
getRoutingSpaceName (

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```

        int theHandle,
        int federateHandle)
throws
    SpaceNotDefined,
    FederateNotExecutionMember,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 10.19
public int
getTransportationHandle (
    CaseInsensitiveName theName,
    int federateHandle)
throws
    NameNotFound,
    FederateNotExecutionMember,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 10.20
public CaseInsensitiveName
getTransportationName (
    int theHandle,
    int federateHandle)
throws
    InvalidTransportationHandle,
    FederateNotExecutionMember,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 7.17
public boolean
isAttributeOwnedByFederate (
    int theObject,
    int theAttribute,
    int federateHandle)
throws
    ObjectNotKnown,
    AttributeNotDefined,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
public int joinFederationExecution(
    String federateType,
    String federationExecutionName,
    FederateAmbassador federateReference)
throws
    FederateAlreadyExecutionMember,
    FederationExecutionDoesNotExist,
    SaveInProgress,
    RestoreInProgress,
    TooManyFederates,
    RTIinternalError,
    java.rmi.RemoteException;
// 6.10
public void localDeleteObjectInstance (
    int ObjectHandle,
    int federateHandle)
throws
    ObjectNotKnown,
    FederateOwnsAttributes,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 8.19
public void modifyLookahead (
    FederationTime theLookahead,
    int federateHandle)

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throws
    InvalidLookahead,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 7.3
public void negotiatedAttributeOwnershipDivestiture (
    int                               theObject,
    AttributeHandleSet               theAttributes,
    byte[]                            userSuppliedTag,
    int federateHandle)
throws
    ObjectNotKnown,
    AttributeNotDefined,
    AttributeNotOwned,
    AttributeAlreadyBeingDivested,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 8.10
public void nextEventRequest (
    FederationTime   theTime,
    int federateHandle)
throws
    InvalidFederationTime,
    FederationTimeAlreadyPassed,
    TimeAdvanceAlreadyInProgress,
    EnableTimeRegulationPending,
    EnableTimeConstrainedPending,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 8.11
public void nextEventRequestAvailable (
    FederationTime   theTime,
    int federateHandle)
throws
    InvalidFederationTime,
    FederationTimeAlreadyPassed,
    TimeAdvanceAlreadyInProgress,
    EnableTimeRegulationPending,
    EnableTimeConstrainedPending,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 9.3
public void notifyAboutRegionModification (
    int   theRegion,
    int federateHandle)
throws
    RegionNotKnown,
    InvalidExtents,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 5.4
public void publishInteractionClass (
    int theInteraction,
    int federateHandle)

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throws
    InteractionClassNotDefined,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
///////////////////////////////
// Declaration Management Services //
///////////////////////////////

// 5.2
public void publishObjectClass (
    int theClass,
    AttributeHandleSet attributeList,
    int federateHandle)
throws
    ObjectClassNotDefined,
    AttributeNotDefined,
    FederateOwnsAttributes,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 7.15
public void queryAttributeOwnership (
    int theObject,
    int theAttribute,
    int federateHandle)
throws
    ObjectNotKnown,
    AttributeNotDefined,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 8.17
public FederationTime queryFederateTime (
    int federateHandle)
throws
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 8.16
public FederationTime queryLBTS (
    int federateHandle)
throws
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 8.20
public FederationTime queryLookahead (
    int federateHandle)
throws
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 8.18
public FederationTime queryMinNextEventTime (
    int federateHandle)

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throws
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
public void registerFederationSynchronizationPoint (
    String synchronizationPointLabel,
    byte[] userSuppliedTag,
    int federateHandle)
throws
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    java.rmi.RemoteException;
public int
registerObjectInstance (
    int theClass,
    int federateHandle)
throws
    ObjectClassNotDefined,
    ObjectClassNotPublished,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
///////////////////////////////
// Object Management Services //
///////////////////////////////

// 6.2
public int
registerObjectInstance (
    int theClass,
    String theObject,
    int federateHandle)
throws
    ObjectClassNotDefined,
    ObjectClassNotPublished,
    ObjectAlreadyRegistered,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
public int
registerObjectInstanceWithRegion (
    int theClass,
    int theAttributes[],
    int theRegions[],
    long theNumberOfHandles,
    int federateHandle)
throws
    ObjectClassNotDefined,
    ObjectClassNotPublished,
    RegionNotKnown,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 9.5
public int
registerObjectInstanceWithRegion (
    int theClass,
    String theObject,
    int theAttributes[],
    int theRegions[],
```

```

        long          theNumberOfHandles,
        int federateHandle)
throws
    ObjectClassNotDefined,
    ObjectClassNotPublished,
    ObjectAlreadyRegistered,
    RegionNotKnown,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
public void requestClassAttributeValueUpdate (
    int theClass,
    AttributeHandleSet theAttributes,
    int federateHandle)
throws
    ObjectClassNotDefined,
    AttributeNotDefined,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 9.13
public void requestClassAttributeValueUpdateWithRegion (
    int theClass,
    AttributeHandleSet theAttributes,
    int theRegion,
    int federateHandle)
throws
    ObjectClassNotDefined,
    AttributeNotDefined,
    RegionNotKnown,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 6.15
public void requestObjectAttributeValueUpdate (
    int theObject,
    AttributeHandleSet theAttributes,
    int federateHandle)
throws
    ObjectNotKnown,
    AttributeNotDefined,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
public void resignFederationExecution (
    ResignAction theAction,
    int federateHandle)
throws
    FederateOwnsAttributes,
    FederateNotExecutionMember,
    InvalidResignAction,
    RTIinternalError,
    java.rmi.RemoteException;
// 8.21
public void retract (
    int theHandle,
    int federateHandle)
throws
    InvalidRetractionHandle,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,

```

```

RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
public void sendInteraction (
    int           theInteraction,
    HandleValuePair[] theParameters,
    byte[]          userSuppliedTag,
    int            federateHandle)
throws
    InteractionClassNotDefined,
    InteractionClassNotPublished,
    InteractionParameterNotDefined,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 6.6
public int
sendInteraction (
    int           theInteraction,
    HandleValuePair[] theParameters,
    FederationTime      theTime,
    byte[]          userSuppliedTag,
    int            federateHandle)
throws
    InteractionClassNotDefined,
    InteractionClassNotPublished,
    InteractionParameterNotDefined,
    InvalidFederationTime,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
public void sendInteractionWithRegion (
    int           theInteraction,
    HandleValuePair[] theParameters,
    byte[]          userSuppliedTag,
    int            theRegion,
    int            federateHandle)
throws
    InteractionClassNotDefined,
    InteractionClassNotPublished,
    InteractionParameterNotDefined,
    RegionNotKnown,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 9.12
public int
sendInteractionWithRegion (
    int           theInteraction,
    HandleValuePair[] theParameters,
    FederationTime      theTime,
    byte[]          userSuppliedTag,
    int            theRegion,
    int            federateHandle)
throws
    InteractionClassNotDefined,
    InteractionClassNotPublished,
    InteractionParameterNotDefined,
    InvalidFederationTime,
    RegionNotKnown,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException,

```

```

java.rmi.RemoteException;
// 5.8
public void subscribeInteractionClass (
    int theClass,
    boolean           active,
    int federateHandle)
throws
    InteractionClassNotDefined,
    FederateNotExecutionMember,
    FederateLoggingServiceCalls,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 9.10
public void subscribeInteractionClassWithRegion (
    int theClass,
    int             theRegion,
    boolean         active,
    int federateHandle)
throws
    InteractionClassNotDefined,
    RegionNotKnown,
    FederateLoggingServiceCalls,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 5.6
public void subscribeObjectClassAttributes (
    int   theClass,
    AttributeHandleSet attributeList,
    boolean        active,
    int federateHandle)
throws
    ObjectClassNotDefined,
    AttributeNotDefined,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 9.8
public void subscribeObjectClassAttributesWithRegion (
    int   theClass,
    int             theRegion,
    AttributeHandleSet attributeList,
    boolean         active,
    int federateHandle)
throws
    ObjectClassNotDefined,
    AttributeNotDefined,
    RegionNotKnown,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
public void synchronizationPointAchieved (
    String synchronizationPointLabel,
    int   federateHandle)
throws
    FederateNotExecutionMember,
    SynchronizationLabelNotAnnounced,
    FederateNotInSynchronizationSet,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    java.rmi.RemoteException;

```

```

// 8.8
public void timeAdvanceRequest (
    FederationTime theTime,
    int federateHandle)
throws
    InvalidFederationTime,
    FederationTimeAlreadyPassed,
    TimeAdvanceAlreadyInProgress,
    EnableTimeRegulationPending,
    EnableTimeConstrainedPending,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 8.9
public void timeAdvanceRequestAvailable (
    FederationTime theTime,
    int federateHandle)
throws
    InvalidFederationTime,
    FederationTimeAlreadyPassed,
    TimeAdvanceAlreadyInProgress,
    EnableTimeRegulationPending,
    EnableTimeConstrainedPending,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 9.7
public void unassociateRegionForUpdates (
    int theRegion,
    int theObject,
    int federateHandle)
throws
    ObjectNotKnown,
    InvalidRegionContext,
    RegionNotKnown,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
///////////////////////////////
// Ownership Management Services //
///////////////////////////////

// 7.2
public void unconditionalAttributeOwnershipDivestiture (
    int theObject,
    AttributeHandleSet theAttributes,
    int federateHandle)
throws
    ObjectNotKnown,
    AttributeNotDefined,
    AttributeNotOwned,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 5.5
public void unpublishInteractionClass (
    int theInteraction,
    int federateHandle)
throws
    InteractionClassNotDefined,
    InteractionClassNotPublished,
    FederateNotExecutionMember,

```

```

SaveInProgress,
RestoreInProgress,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 5.3
public void unpublishObjectClass (
    int theClass,
    int federateHandle)
throws
ObjectClassNotDefined,
FederateOwnsAttributes,
ObjectClassNotPublished,
FederateNotExecutionMember,
SaveInProgress,
RestoreInProgress,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 5.9
public void unsubscribeInteractionClass (
    int theClass,
    int federateHandle)
throws
InteractionClassNotDefined,
InteractionClassNotSubscribed,
FederateNotExecutionMember,
SaveInProgress,
RestoreInProgress,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 9.11
public void unsubscribeInteractionClassWithRegion (
    int theClass,
    int theRegion,
    int federateHandle)
throws
InteractionClassNotDefined,
InteractionClassNotSubscribed,
RegionNotKnown,
FederateNotExecutionMember,
SaveInProgress,
RestoreInProgress,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 5.7
public void unsubscribeObjectClass (
    int theClass,
    int federateHandle)
throws
ObjectClassNotDefined,
ObjectClassNotSubscribed,
FederateNotExecutionMember,
SaveInProgress,
RestoreInProgress,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;
// 9.9
public void unsubscribeObjectClassWithRegion (
    int theClass,
    int theRegion,
    int federateHandle)
throws
ObjectClassNotDefined,
RegionNotKnown,
FederateNotExecutionMember,
SaveInProgress,
RestoreInProgress,
RTIinternalError,
UnimplementedService,
java.rmi.RemoteException;

```

```
public void updateAttributeValues (
    int             theObject,
    HandleValuePair[] theAttributes,
    byte[]          userSuppliedTag,
    int federateHandle)
throws
    ObjectNotKnown,
    AttributeNotDefined,
    AttributeNotOwned,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
// 6.4
public int
updateAttributeValues (
    int             theObject,
    HandleValuePair[] theAttributes,
    FederationTime   theTime,
    byte[]          userSuppliedTag,
    int federateHandle)
throws
    ObjectNotKnown,
    AttributeNotDefined,
    AttributeNotOwned,
    InvalidFederationTime,
    FederateNotExecutionMember,
    SaveInProgress,
    RestoreInProgress,
    RTIinternalError,
    UnimplementedService,
    java.rmi.RemoteException;
}
```

```

/* File FederateAmbassador.java */

package hla.rti;

import java.util.*;

/**
 * Federate must implement this interface.
 */
public interface FederateAmbassador {

    public void announceSynchronizationPoint(
        String synchronizationPointLabel,
        byte[] userSuppliedTag)
    throws
        FederateInternalError,
        java.rmi.RemoteException;
    public void attributeIsNotOwned (
        int      theObject,
        int      theAttribute)
    throws
        ObjectNotKnown,
        AttributeNotKnown,
        FederateInternalError,
        java.rmi.RemoteException;
    public void attributeOwnedByRTI (
        int      theObject,
        int      theAttribute)
    throws
        ObjectNotKnown,
        AttributeNotKnown,
        FederateInternalError,
        java.rmi.RemoteException;
    // 7.6
    public void attributeOwnershipAcquisitionNotification (
        int          theObject,
        AttributeHandleSet  securedAttributes)
    throws
        ObjectNotKnown,
        AttributeNotKnown,
        AttributeAcquisitionWasNotRequested,
        AttributeAlreadyOwned,
        AttributeNotPublished,
        FederateInternalError,
        java.rmi.RemoteException;
    // 7.5
    public void attributeOwnershipDivestitureNotification (
        int          theObject,
        AttributeHandleSet  releasedAttributes)
    throws
        ObjectNotKnown,
        AttributeNotKnown,
        AttributeNotOwned,
        AttributeDivestitureWasNotRequested,
        FederateInternalError,
        java.rmi.RemoteException;
    // 7.9
    public void attributeOwnershipUnavailable (
        int          theObject,
        AttributeHandleSet  theAttributes)
    throws
        ObjectNotKnown,
        AttributeNotKnown,
        AttributeAlreadyOwned,
        AttributeAcquisitionWasNotRequested,
        FederateInternalError,
        java.rmi.RemoteException;
    // 6.13
}

```

```

public void attributesInScope (
    int          theObject,
    AttributeHandleSet theAttributes)
throws
    ObjectNotKnown,
    AttributeNotKnown,
    FederateInternalError,
    java.rmi.RemoteException;
// 6.14
public void attributesOutOfScope (
    int          theObject,
    AttributeHandleSet theAttributes)
throws
    ObjectNotKnown,
    AttributeNotKnown,
    FederateInternalError,
    java.rmi.RemoteException;
// 7.14
public void confirmAttributeOwnershipAcquisitionCancellation (
    int          theObject,
    AttributeHandleSet theAttributes)
throws
    ObjectNotKnown,
    AttributeNotKnown,
    AttributeAlreadyOwned,
    AttributeAcquisitionWasNotCanceled,
    FederateInternalError,
    java.rmi.RemoteException;
///////////////////////////////
// Object Management Services //
///////////////////////////////

// 6.3
public void discoverObjectInstance (
    int          theObject,
    int          theObjectClass)
throws
    CouldNotDiscover,
    ObjectClassNotKnown,
    FederateInternalError,
    java.rmi.RemoteException;
public void federationSynchronized(
    String synchronizationPointLabel)
throws
    FederateInternalError,
    java.rmi.RemoteException;
// 7.16
public void informAttributeOwnership (
    int          theObject,
    int          theAttribute,
    int          theOwner)
throws
    ObjectNotKnown,
    AttributeNotKnown,
    FederateInternalError,
    java.rmi.RemoteException;
// 6.16
public void provideAttributeValueUpdate (
    int          theObject,
    AttributeHandleSet theAttributes)
throws
    ObjectNotKnown,
    AttributeNotKnown,
    AttributeNotOwned,
    FederateInternalError,
    java.rmi.RemoteException;
public void receiveInteraction (
    int          interactionClass,
    OrderType      order,
    TransportType   transport,
    int          regionHandle,
    HandleValuePair[] theParameters,
    byte[]        userSuppliedTag)
throws

```

```

InteractionClassNotKnown,
InteractionParameterNotKnown,
FederateInternalError,
java.rmi.RemoteException;
// 6.7
public void receiveInteraction (
    int           interactionClass,
    OrderType      order,
    TransportType   transport,
    int            regionHandle,
    HandleValuePair[] theParameters,
    FederationTime theTime,
    byte[]         userSuppliedTag,
    int            eventRetractionHandle)
throws
    InteractionClassNotKnown,
    InteractionParameterNotKnown,
    InvalidFederationTime,
    FederateInternalError,
    java.rmi.RemoteException;
public void reflectAttributeValues (
    int           theObject,
    ReflectedAttribute[] theAttributes,
    byte[]         userSuppliedTag)
throws
    ObjectNotKnown,
    AttributeNotKnown,
    FederateOwnsAttributes,
    FederateInternalError,
    java.rmi.RemoteException;
// 6.5
public void reflectAttributeValues (
    int           theObject,
    ReflectedAttribute[] theAttributes,
    FederationTime       theTime,
    byte[]             userSuppliedTag,
    int            theHandle)
throws
    ObjectNotKnown,
    AttributeNotKnown,
    FederateOwnsAttributes,
    InvalidFederationTime,
    FederateInternalError,
    java.rmi.RemoteException;
public void removeObjectInstance (
    int           theObject,
    byte[]         userSuppliedTag)
throws
    ObjectNotKnown,
    FederateInternalError,
    java.rmi.RemoteException;
// 6.9
public void removeObjectInstance (
    int           theObject,
    FederationTime     theTime,
    byte[]             userSuppliedTag,
    int theHandle)
throws
    ObjectNotKnown,
    InvalidFederationTime,
    FederateInternalError,
    java.rmi.RemoteException;
///////////////////////////////
// Ownership Management Services //
///////////////////////////////

// 7.4
public void requestAttributeOwnershipAssumption (
    int           theObject,
    AttributeHandleSet offeredAttributes,
    byte[]         userSuppliedTag)
throws
    ObjectNotKnown,
    AttributeNotKnown,

```

```

AttributeAlreadyOwned,
AttributeNotPublished,
FederateInternalError,
java.rmi.RemoteException;
// 7.10
public void requestAttributeOwnershipRelease (
    int          theObject,
    AttributeHandleSet candidateAttributes,
    byte[]       userSuppliedTag)
throws
    ObjectNotKnown,
    AttributeNotKnown,
    AttributeNotOwned,
    FederateInternalError,
    java.rmi.RemoteException;
// 8.22
public void requestRetraction (
    int theHandle)
throws
    EventNotKnown,
    FederateInternalError,
    java.rmi.RemoteException;
///////////////////////////////
// Declaration Management Services //
///////////////////////////////

// 5.10
public void startRegistrationForObjectClass (
    int theClass)
throws
    ObjectClassNotPublished,
    FederateInternalError,
    java.rmi.RemoteException;
// 5.11
public void stopRegistrationForObjectClass (
    int theClass)
throws
    ObjectClassNotPublished,
    FederateInternalError,
    java.rmi.RemoteException;
public void synchronizationPointRegistrationFailed(
    String synchronizationPointLabel)
throws
    FederateInternalError,
    java.rmi.RemoteException;
public void synchronizationPointRegistrationSucceeded(
    String synchronizationPointLabel)
throws
    FederateInternalError,
    java.rmi.RemoteException;
// 8.13
public void timeAdvanceGrant (
    FederationTime theTime)
throws
    InvalidFederationTime,
    TimeAdvanceWasNotInProgress,
    FederateInternalError,
    java.rmi.RemoteException;
// 8.6
public void timeConstrainedEnabled (
    FederationTime theFederateTime)
throws
    InvalidFederationTime,
    EnableTimeConstrainedWasNotPending,
    FederateInternalError,
    java.rmi.RemoteException;
///////////////////
// Time Management Services //
///////////////////

// 8.3
public void timeRegulationEnabled (
    FederationTime theFederateTime)
throws

```

```
    InvalidFederationTime,
    EnableTimeRegulationWasNotPending,
    FederateInternalError,
    java.rmi.RemoteException;
// 5.13
public void turnInteractionsOff (
    int theHandle)
throws
    InteractionClassNotPublished,
    FederateInternalError,
    java.rmi.RemoteException;
// 5.12
public void turnInteractionsOn (
    int theHandle)
throws
    InteractionClassNotPublished,
    FederateInternalError,
    java.rmi.RemoteException;
// 6.18
public void turnUpdatesOffForObjectInstance (
    int          theObject,
    AttributeHandleSet theAttributes)
throws
    ObjectNotKnown,
    AttributeNotOwned,
    FederateInternalError,
    java.rmi.RemoteException;
// 6.17
public void turnUpdatesOnForObjectInstance (
    int          theObject,
    AttributeHandleSet theAttributes)
throws
    ObjectNotKnown,
    AttributeNotOwned,
    FederateInternalError,
    java.rmi.RemoteException;
}
}
```

```

/* File FederateHandleSet.java */

package hla.rti;

/**
 * This interface was generated by a SmartGuide.
 *
 */
public interface FederateHandleSet {

    /**
     * Add the handle to the set. Won't squawk if handle already member.
     * This method was created by a SmartGuide.
     * @param handle int
     * @exception hla.rti.FederateNotExecutionMember if handle out of range
     */
    public void add ( int handle) throws FederateNotExecutionMember;
    /**
     * Classic clone
     * This method was created by a SmartGuide.
     * @return java.lang.Object
     */
    public Object clone();
    /**
     * Empties set of its members.
     * This method was created by a SmartGuide.
     */
    public void empty ( );
    /**
     * Classic equals.
     * This method was created by a SmartGuide.
     * @return boolean: true if set of same type and same members.
     * @param obj java.lang.Object
     */
    public boolean equals(Object obj);
    /**
     * Classic hashCode
     * This method was created by a SmartGuide.
     * @return int: hash code
     */
    public int hashCode();
    /**
     * This method was created by a SmartGuide.
     * @return boolean: true if set empty.
     */
    public boolean isEmpty();
    /**
     * This method was created by a SmartGuide.
     * @return boolean: true if handle is a meber
     * @param handle int: an attribute handle
     * @exception hla.rti.FederateNotExecutionMember if handle out of range
     */
    public boolean isMember(int handle) throws FederateNotExecutionMember;
    /**
     * Remove the handle from the set. Won't squawk if handle not a member.
     * This method was created by a SmartGuide.
     * @param handle int
     * @exception hla.rti.FederateNotExecutionMember if handle out of range
     */
    public void remove (int handle ) throws FederateNotExecutionMember;
    /**
     * Target has intersection removed (Logical XOR) of supplied set with this.
     * This method was created by a SmartGuide.
     * @return hla.rti.FederateHandleSet: the target
     * @param s hla.rti.FederateHandleSet
     */
    public FederateHandleSet removeSetIntersection(FederateHandleSet s);
    /**
     * Target becomes intersection with supplied set.
     * This method was created by a SmartGuide.
     * @return hla.rti.FederateHandleSet: the target
     */
}

```

```
* @param set hla.rti.FederateHandleSet
*/
public FederateHandleSet setIntersection(FederateHandleSet s);
/**
 * Target becomes union with supplied set.
 * This method was created by a SmartGuide.
 * @return hla.rti.FederateHandleSet: the target
 * @param s hla.rti.FederateHandleSet
 */
public FederateHandleSet setUnion(FederateHandleSet s);
/**
 * This method was created by a SmartGuide.
 * @return int: number of members
 */
public int size();
/**
 * This method was created by a SmartGuide.
 * @return java.lang.String
 */
public String toString();
}
```

```
/* File HandleValuePair.java */

package hla.rti;

/**
 * A mere holder. HVPsets are arrays of these
 */

public final class HandleValuePair {
    public int _handle;
    public byte[] _value;

    public HandleValuePair(int handle, byte[] value) {
        _handle = handle;
        _value = value;
    }
}
```

```

/* File AttributeHandleSet.java */

package hla.rti;

/**
 * This interface was generated by a SmartGuide.
 *
 */
public interface AttributeHandleSet {

    /**
     * Add the handle to the set. Won't squawk if handle already member.
     * This method was created by a SmartGuide.
     * @param handle int
     * @exception hla.rti.AttributeNotDefined if handle out of range
     */
    public void add ( int handle) throws AttributeNotDefined;
    /**
     * Classic clone
     * This method was created by a SmartGuide.
     * @return java.lang.Object
     */
    public Object clone();
    /**
     * Empties set of its members.
     * This method was created by a SmartGuide.
     */
    public void empty ( );
    /**
     * Classic equals.
     * This method was created by a SmartGuide.
     * @return boolean: true if set of same type and same members.
     * @param obj java.lang.Object
     */
    public boolean equals(Object obj);
    /**
     * Classic hashCode
     * This method was created by a SmartGuide.
     * @return int: hash code
     */
    public int hashCode();
    /**
     * This method was created by a SmartGuide.
     * @return boolean: true if set empty.
     */
    public boolean isEmpty();
    /**
     * This method was created by a SmartGuide.
     * @return boolean: true if handle is a meber
     * @param handle int: an attribute handle
     * @exception hla.rti.AttributeNotDefined if handle out of range
     */
    public boolean isMember(int handle) throws AttributeNotDefined;
    /**
     * Remove the handle from the set. Won't squawk if handle not a member.
     * This method was created by a SmartGuide.
     * @param handle int
     * @exception hla.rti.AttributeNotDefined if handle out of range
     */
    public void remove (int handle ) throws AttributeNotDefined;
    /**
     * Remove from target the intersection with (Logical XOR) supplied set with this.
     * This method was created by a SmartGuide.
     * @return hla.rti.AttributeHandleSet: the target
     * @param s hla.rti.AttributeHandleSet
     */
    public AttributeHandleSet removeSetIntersection(AttributeHandleSet s);
    /**
     * Target becomes intersection of supplied set with this.
     * This method was created by a SmartGuide.
     * @return hla.rti.AttributeHandleSet: the target
     * @param s hla.rti.AttributeHandleSet
     */
}

```

```
public AttributeHandleSet setIntersection(AttributeHandleSet s);
/**
 * Target becomes union with supplied set.
 * This method was created by a SmartGuide.
 * @return hla.rti.AttributeHandleSet: the target
 * @param set hla.rti.AttributeHandleSet
 */
public AttributeHandleSet setUnion(AttributeHandleSet s);
/**
 * This method was created by a SmartGuide.
 * @return int: number of members
 */
public int size();
/**
 * This method was created by a SmartGuide.
 * @return java.lang.String
 */
public String toString();
}
```

```

/* File FederationTime.java */

package hla.rti;

import java.io.*;

public interface FederationTime {

    /**
     * This method was created by a SmartGuide.
     * @return hla.rti.FederationTime
     * @param t hla.rti.FederationTime
     * @exception hla.rti.InvalidFederationTime The exception description.
     */
    public FederationTime decreaseBy(FederationTime t) throws InvalidFederationTime;
    /**
     * Allows comparison with other instance of same type.
     * @return true if supplied object is of type FederationTime and has same value;
     * false otherwise
     *
     * This must be defined for Hashtables to work!
     * See also equals(FederationTime).
     */
    public boolean equals(Object otherFederationTimeValue);
    public int hashCode();
    /**
     * This method was created by a SmartGuide.
     * @return hla.rti.FederationTime
     * @param t hla.rti.FederationTime
     * @exception hla.rti.InvalidFederationTime The exception description.
     */
    public FederationTime increaseSetBy ( FederationTime t) throws InvalidFederationTime;
    /**
     * This method was created by a SmartGuide.
     * @return boolean
     * @param t hla.rti.FederationTime
     * @exception hla.rti.InvalidFederationTime The exception description.
     * Defined to mimic the C++ API. See also equals(Object)
     */
    public boolean isEqual(FederationTime t) throws InvalidFederationTime;
    /**
     * This method was created by a SmartGuide.
     * @return boolean
     * @param t hla.rti.FederationTime
     * @exception hla.rti.InvalidFederationTime The exception description.
     */
    public boolean isGreaterThan(FederationTime t) throws InvalidFederationTime;
    /**
     * This method was created by a SmartGuide.
     * @return boolean
     * @param t hla.rti.FederationTime
     * @exception hla.rti.InvalidFederationTime The exception description.
     */
    public boolean isGreaterThanOrEqualTo(FederationTime t) throws InvalidFederationTime;
    /**
     * This method was created by a SmartGuide.
     * @return boolean
     * @param t hla.rti.FederationTime
     * @exception hla.rti.InvalidFederationTime The exception description.
     */
    public boolean isLessThan(FederationTime t) throws InvalidFederationTime;
    /**
     * This method was created by a SmartGuide.
     * @return boolean
     * @param t hla.rti.FederationTime
     * @exception hla.rti.InvalidFederationTime The exception description.
     */
    public boolean isLessThanOrEqualTo(FederationTime t) throws InvalidFederationTime;
    /**
     * This method was created by a SmartGuide.
     * @return boolean
     */
}

```

```
public boolean isPositiveInfinity( );
/**
 * This method was created by a SmartGuide.
 * @return boolean
 */
public boolean isZero ( );
/**
 * This method was created by a SmartGuide.
 */
public void setPositiveInfinity ( );
/**
 * This method was created by a SmartGuide.
 * @return hla.rti.FederationTime
 * @param t hla.rti.FederationTime
 * @exception hla.rti.InvalidFederationTime The exception description.
 */
public FederationTime setTo(FederationTime t) throws InvalidFederationTime;
/**
 * This method was created by a SmartGuide.
 */
public void setZero ( );
    public String toString();
}
```

```
/* File FederationTimeFactory.java */

package hla.rti;

public interface FederationTimeFactory {

    /**
     * This method was created by a SmartGuide.
     * @return hla.rti.FederationTime
     */
    public FederationTime makeEpsilon();
    /**
     * @return new instance of FederateTime, set to maximum value
     */
    public FederationTime makeMaximum();
    /**
     * @return new instance of FederateTime, set to "zero"
     */
    public FederationTime makeZero();
}
```

```

/* File OrderType.java */

package hla.rti;

import java.io.*;

/**
 * An enumerated type (not a Java Enumeration!)
 */

public final class OrderType implements java.io.Serializable {
    private int _value; //each instance's value
    private static final int _lowestValue = 1;
    private static int _nextToAssign = _lowestValue; //begins at lowest

    static public final OrderType RECEIVE = new OrderType();
    static public final OrderType TIMESTAMP = new OrderType();

    /**
     * Private to class
     */
    private OrderType() {
        _value = _nextToAssign++;
    }
    /**
     * This is the only public constructor. Each user-defined instance of a OrderType
     * must be initialized with one of the defined static values.
     * @param otherOrderTypeValue must be a defined static value or another instance.
     */
    public OrderType(OrderType otherOrderTypeValue) {
        _value = otherOrderTypeValue._value;
    }
    /**
     * Allows comparison with other instance of same type.
     * @return true if supplied object is of type OrderType and has same value;
     * false otherwise
     */
    public boolean equals(Object otherOrderTypeValue) {
        if (otherOrderTypeValue instanceof OrderType)
            return _value == ((OrderType)otherOrderTypeValue)._value;
        else return false;
    }
    public int hashCode() {
        return _value;
    }
    /**
     * @return String with value "OrderType(n)" where n is value
     */
    public String toString() {
        return "OrderType(" + _value + ")";
    }
}

```

```
/* File ReceivedInteraction.java */

package hla.rti;

/**
 * A record to deliver a received interaction.
 * @see hla.rti.FederateAmbassador.receiveInteraction
 * This class was generated by a SmartGuide.
 *
 */
public class ReceivedInteraction {
    public OrderType          _order;
    public TransportType       _transport;
    public int                 _regionHandle;
    public HandleValuePair[]   _parameters;
}
```

```
/* File ReflectedAttribute.java */

package hla.rti;

/**
 * A record for an attribute reflected to a federate.
 * @see hla.rti.FederateAmbassador.reflectAttributeValues
 * This class was generated by a SmartGuide.
 *
 */
public class ReflectedAttribute {
    public int          _attributeHandle;
    public byte []       _value;
    public OrderType    _order;
    public TransportType _transport;
    public int          _regionHandle;
}

}
```

```

/* File ResignAction.java */

package hla.rti;

/**
 * An enumerated type (not a Java Enumeration!)
 * @see hla.rti.RTIambassador#resignFederationExecution
 */
public final class ResignAction implements java.io.Serializable {
    private int _value; //each instance's value
    private static final int _lowestValue = 1;
    private static int _nextToAssign = _lowestValue; //begins at lowest

    static public final ResignAction RELEASE_ATTRIBUTES = new ResignAction();
    static public final ResignAction DELETE_OBJECTS = new ResignAction();
    static public final ResignAction DELETE_OBJECTS_AND_RELEASE_ATTRIBUTES = new ResignAction();

    /**
     * Private to class
     */
    private ResignAction() {
        _value = _nextToAssign++;
    }
    ResignAction(int value)
    throws RTIinternalError
    {
        _value = value;
        if (value < _lowestValue || value >= _nextToAssign) throw new
            RTIinternalError("ResignAction: illegal value " + value);
    }
    /**
     * This is the only public constructor. Each user-defined instance of a ResignAction
     * must be initialized with one of the defined static values.
     * @param otherResignActionValue must be a defined static value or another instance.
     */
    public ResignAction(ResignAction otherResignActionValue) {
        _value = otherResignActionValue._value;
    }
    /**
     * Allows comparison with other instance of same type.
     * @return true if supplied object is of type ResignAction and has same value;
     * false otherwise
     */
    public boolean equals(Object otherResignActionValue) {
        if (otherResignActionValue instanceof ResignAction)
            return _value == ((ResignAction)otherResignActionValue)._value;
        else return false;
    }
    public int hashCode() {
        return _value;
    }
    /**
     * @return String with value "ResignAction(n)" where n is value
     */
    public String toString() {
        return "ResignAction(" + _value + ")";
    }
}

```

```

/* File TransportType.java */

package hla.rti;

/**
 * An enumerated type (not a Java Enumeration!)
 */

public final class TransportType implements java.io.Serializable {
    private int _value; //each instance's value
    private static final int _lowestValue = 1;
    private static int _nextToAssign = _lowestValue; //begins at lowest

    static public final TransportType RELIABLE = new TransportType();
    //static public final TransportType BEST EFFORT = new TransportType();

    /**
     * Private to class
     */
    private TransportType() {
        _value = _nextToAssign++;
    }
    /**
     * This is the only public constructor. Each user-defined instance of a TransportType
     * must be initialized with one of the defined static values.
     * @param otherTransportTypeValue must be a defined static value or another instance.
     */
    public TransportType(TransportType otherTransportTypeValue) {
        _value = otherTransportTypeValue._value;
    }
    /**
     * Allows comparison with other instance of same type.
     * @return true if supplied object is of type TransportType and has same value;
     * false otherwise
     */
    public boolean equals(Object otherTransportTypeValue) {
        if (otherTransportTypeValue instanceof TransportType)
            return _value == ((TransportType)otherTransportTypeValue)._value;
        else return false;
    }
    public int hashCode() {
        return _value;
    }
    /**
     * @return String with value "TransportType(n)" where n is value
     */
    public String toString() {
        return "TransportType(" + _value + ")";
    }
}

```